Manus ISS Daily Operating Procedure

I. Purpose:

This document contains the basic operating instructions for the Manus NOAA ISS. This is a small Doppler radar that measures the winds above the station. It also has a small automatic surface meteorological station.

II. Cautions and Hazards:

None.

III. Requirements:

None.

IV. Procedure:

A. Steps:

1. Turn on the two video monitors. If you wish to see the plots of the radar data, press the F8 key on the MANUS915 keyboard (the one on the right).
2. Record the following items on the log sheet:
    - Operator's name.
    - Date and time.
    - Temperature inside the building, hot or cool for now, since the thermometer is missing.
    - Which air conditioner is being used, top or bottom.
    - The disk space remaining on the 3 JAZ disks.
    - Any comments about the site or operation.
3. To determine the disk space remaining, double-click the left mouse button on the CHECK DISK SPACE icon on the screen. This routine will spin up the JAZ drives, which takes about 30 seconds. It will then report the amount of free space on each drive, and the percentage of the drive that is used. It will also report when the disk drive is full. A sample CHECK DISK SPACE report is shown below.
    - We want to use all three JAZ drives, so when the UPPER JAZ drive is full, remove the JAZ disk and send it along with the

current log sheet to the US with the weekly ARCS data package. Do not put a replacement JAZ disk in the unit at this time, so the data will be written using the MIDDLE JAZ drive.

- When the MIDDLE JAZ drive is full, remove the JAZ disk and send it along with the current log sheet to the US with the weekly ARCS data package. Do not put a replacement JAZ disk in the unit at this time, so the data will be written using the LOWER JAZ drive.
- When the LOWER JAZ drive is full, remove the JAZ disk and send it along with the current log sheet to the US with the weekly ARCS data package. Put blank JAZ disks into all three drives, starting with the UPPER JAZ drive in the unit at this time.
- When there are 4 JAZ disks left, notify Karen Creel that you need more disks.
- The address to send the data to is:
  Karen Creel
  ARCS DMF
  Pacific Northwest National Laboratory
  ISB 1, Room 526
  MS K7-28
  3350 Q Street
  Richland, WA, USA 99352
  Phone: 509.375.2428
  Fax: 509.375.3641

4. Make sure the MANUSCOMS computer is working correctly. There are several things that need to be checked on this computer:
   - On the stripe at the bottom of the screen, there should be at least 5 task buttons: Start, ManusCampbell, and CNSIngest.
   - Daily at 2:30 UT, the MANUSCOMS Computer moves data to the JAZ drives. When this occurs, there will be more activity on the video screen, which is normal.
   - Make sure that the GOES transmission program is working. This occurs at 1 minute and 31 minutes after the hour.
   - Make sure the GPS receiver is working correctly:
     a) Double click on the GPS time icon.
     b) Verify that the program reports the GPS data as VALID.

c) If the GPS data is not VALID, make a note in the comments on the logsheet.

d) Press the QUIT key on the READPACS2 display to close the GPS time routine.

- If any of these items appear wrong, follow the shutdown procedure for the MANUSCOMS Computer. After the power switch has been turned, turn it back on. Wait and make sure that all of the processes start to work.

5. Make sure that the radar is operating. This is done by making sure that there is an S followed by a number flashing on the lower left corner of the display. The numbers will decrease, then start over and count down again. If this is not happening, the MANUS915 will need to be re-started. Before re-starting the computer, write any error messages on the screen on the log sheet. Follow the shut down procedure written above.
6. If the computer does not respond to any keyboard or mouse commands and seems to be locked-up, turn the power to the computer off, then turn it back on. Be sure to do this ONLY if the computer is locked-up.

B. Leaving the Radar After Daily Check

1. Switch the two video monitors off. Before turning the radar monitor off, make sure that it is not plotting the data. If it is, press the F8 -kjey to turn the data plotting off, then turn off the monitor.
2. Make sure the printer is off.
3. Make sure the lock in the doorknob is locked.
4. Turn off the lights.
5. Shut the door and make sure it is locked.
6. Shut the outside container door and lock it using the padlock.

V. References:

1. Paul Johnston
   pej@al.noaa.gov
   1-303-497-3176 (work)
   1-303-776-5517 (home)
   1-303-497-5373 (fax)
2. Dave Carter
   dac@al.noaa.gov
   1-303-497-5476 (work)
   1-303-497-5373 (fax)
3. Barbara Herrli
   babs@al.noaa.gov
   1-303-497-3876 (work)
   1-303-497-5373 (fax)
4. In Nauru, contact Andrew Pitcher:
   Andrew Pitcher
   Senior Project Officer
   Nauru Dept. of Island Development and Industry
   Govt. Offices
   Nauru, Central Pacific
   674-444-3181 (phone)
   674-444-3791 (fax)
   spo_pitcher@hotmail.com

VI. Attachments:

1. Description of Normal Operations

Attachment 1. Description of Normal Operations

I. The system is operated by two computers. These computers are the MANUSCOMS computer and the MANUS915 computer. MANUSCOMS uses the Windows98 operating system. MANUS915 uses the Windows 95 operating system. These operating systems allow several programs to work at the same time. They communicate with each other over a network.

II. MANUS915 computer operates the radar. It starts operating automatically. Normal operation is shown by the count down in the lower left-hand corner of the screen. If there is not an Sxx countdown, then the radar is not running and there is a problem. The easiest way to restart the radar is to shut down the computer, then restart it, following the shutdown and start up instructions, for the MANUS915.

III. MANUSCOMS computer functions as a communications unit, receiving the data from the Campbell surface met. Station, sending radar winds to the GOES transmitter, receiving time data from the GPS receiver. It also controls the copying of data each day to the JAZ drives.

A. On task bar at bottom of screen, there should be three task buttons: Start (always at left), ManusCampbell, and CnsIngest. These represent the normal activities of the MANUSCOMS computer. If these three buttons are not present, shut the MANUSCOMS computer down and restart it.

B. Start is the button that is used to start programs and shut down the computer.

C. ManusCampbell is the task that receives the data from the Campbell datalogger that measure the surface meteorological data. This program also displays the surface values, averaged for the last 30 seconds. The rainfall is only for the last 30 second reading.

D. At :01 and :31 minutes of each hour, MANUSCOMS will look for data from the radar and to transmit back to the GOES satellite. This process will first activate the CnsIngest routine, then call GOESCLOCK1, and finally call GOESPROC1, the routine that sends data that is waiting to the GOES transmitter. In Nauru, GOES transmissions are schedules five times per hour (hh:04:05, hh:15:05, hh:28:05, hh:40:05, hh:52:05), but only two per hour are currently being used (hh:04:05 and hh:40:05).

E. At :53 minutes into each hour, MANUSCOMS will start up the ReadPACS2 routine and run it for 5 minutes. This routine reads the data from the GPS receiver and sets the MANUSCOMS computer clock. We have found that for some reason, ReadPACS2 interferes with the mouse on MANUSCOMS, so we are currently not running it continuously. At the top of each hour, MANUS915 sets its clock to the MANUSCOMS clock.

F. Every day at 2:30 in the afternoon (02:30 UT), the MANUSCOMS computer will run the Alarchiver3 program. This routine copies the data from the previous days to the archive files. Usually this will be the JAZ

drives, but if the JAZ disks are full or not working, it will copy the data to places on the hard drive of the MANUSCOMS computer. One JAZ disk will fill up about every 16 days. This means that the three JAZ disks in the system will keep the system running for 48 days.

G. Every Sunday at 11:45 PM (local midnight), the MANUSCOMS computer will delete all of the files in the c:\goes\input and c:\goes\queue directories. This will keep the outgoing messages from piling up and stopping the normal data transmissions.